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Subject: VBT Final Report
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Visual Browsing Tool (VBT)
Astrophysics Data Program
NASA Contract # NAS5-31860
Final Report - February 20, 1997
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I. Summary

Work on the VBT for the fiscal year ending September 30, 1996 concentrated on exploring new avenues for utilizing the existing VBT software, and modifying the core software suite to work within the rapidly changing World Wide Web (WWW) environment.

Recall, the original idea behind the VBT was to provide a visual interface to the astronomical databases available through the Astrophysics Data System (ADS). In December 1995, work on the Classic Astrophysics Data System was terminated at CASA, as NASA decided that funding for the ADS would be reduced to support only the ADS Abstract Service being developed at the Smithsonian Astrophysical Observatory. This decision was made as many of the services provided by the ADS had become accessible through the WWW.

With the cancellation of the Classic Astrophysics Data System, and the explosion of the WWW, a decision was made to modify the VBT client to communicate between VBT generated queries and the WWW using the NCSA developed Common Client Interface (CCI) and the Common Gateway Interface (CGI). It was also decided to work in parallel to segment the current VBT code into individual WWW Java applets. This option eliminates the need to develop an executive program using the CCI but requires the custom CGI interaction for connecting to remote servers on the Web.

A considerable effort has gone into researching the best method to communicate between the VBT and CCI and CGI. After testing several methods of possible communication, we have chosen to utilize the built-in capabilities of the Oracle WebSystem for this task. The WebSystem allows us to integrate the VBT database queries with dynamically-built HTML. We now have a functioning Oracle WebSystem in place and are presently building the database queries that the VBT will use to retrieve astronomical data. With the WebSystem, interaction with visual information is currently done with dynamically generated ImageMaps. While the existing ImageMap procedures provide some of the required functionality for user interaction with visual data, we feel that individual Java applets communicating with the WebSystem will provide a more robust and powerful environment. However, compartmentization of the VBT code into Java applets has proven to be more difficult than anticipated, thus progress has been

slower than expected.

In the final quarter of the VBT project, Paul Pinkney was hired on as an independent consultant to help port the existing VBT code to Solaris 2.5 and develop some small Java applets that reproduced some of the functionality found in the original X11/Motif based VBT code. Paul was unable to complete the port successfully but was able to develop a small Java applet for graphing simple XY plots. The project funds were exhausted at the end of September, 1996. Copies of Paul's Master's Thesis, a project paper, an AAS poster paper, and an ACM SIGCHI poster paper all reporting on the VBT have been submitted in previous status reports. A Unix tar formatted 8mm tape archive of all the source code and documentation for the VBT is available upon request. Please direct all inquiries to Alice Bertini, (bertini@casa.colorado.edu).